

~~(a)~~
~~b1~~
~~X~~
~~M~~

system for converging the light incident from the ultraviolet light source, an amplitude mask for selectively transmitting therethrough the ultraviolet light incident from the lens system onto an optical fiber, wherein the light source, the lens system, the amplitude mask and the optical fiber are arranged on an optical axis, the method comprising the steps of:

(a) setting a period of the apodized optical fiber grating formed on the optical fiber and setting a width of each stripe of the apodized optical fiber grating, wherein the width of each stripe along the optical fiber becomes narrower as the stripe is positioned further away from the optical axis;

(b) setting a longitudinal ratio, which is a ratio of the distance between a converging point of the lens system and the amplitude mask and the distance between the converging point of the lens system and the optical fiber;

(c) setting a period of the amplitude mask so as to equalize a transverse ratio, which is a ratio of the period of the amplitude mask and the period of the apodized optical fiber grating, with the longitudinal ratio set in step (b); and

(d) setting a thickness of the amplitude mask so as to match the stripe pattern of the apodized optical fiber grating set in